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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,982	02/01/2000	Christopher L. Jones	59036-249728	5534

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EXAMINER
DIXON, THOMAS A

ART UNIT	PAPER NUMBER
3629	

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/495,982	JONES ET AL.	
	Examiner	Art Unit	
	Thomas A. Dixon	3629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *33-57* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *33-57* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The arguments presented in the amendment of 2 January 2003 have been considered, but are not convincing.

Examiner disagrees that Luskin does not teach generating scenarios for asset classes based upon futures scenarios for one or more economic factors. Applicant defines economic factors as including dividend growth which see seen to be implicitly part of the expected returns of Luskin if a stock in the portfolio contains stocks which pay dividends as do a portion of the Dow 30 stocks.

Examiner disagrees that Luskin does not teach creating a mapping onto one or more asset classes according to applicant's claim, see column 7, lines 47-50, in which Applicant's AAT product is used as the optimizing engine, disclosed in IDS #7.

Further, applicant's argument of page 18 regarding the applicants' 1988 invention of "returns-based style analysis" appears to create a statutory bar to the assertion that the limitation is the patentable feature.

Examiner disagrees that Luskin does not teachdetermining expected returns and volatility of returns for a plurality of portfolios on the efficient frontier, see figures 5A-D.

Examiner disagrees that Luskin does not teach identifying a recommended portfolio that maximizes an expected utility of wealth for a particular investor. Lusking column 7, lines 47-64 specifically discloses use of an optimizing software which is seen to clearly maximize the utility of wealth of a particular investor.

Election/Restrictions

2. Newly submitted claims 34-57 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The new claims are to limitations which differ significantly from the originally presented claims in their analysis of the assets to be considered for the recommended portfolio and are seen to be three separate inventions, combinations useable with the original invention, but distinct from it.

Claims 34 and 53 determining a combination of one or more asset classes and proportions thereof that characterize future performance of each financial product and identifying a recommended efficient portfolio of financial products while claim 1 merely claims generating return scenarios... creating a mapping... determining expected returns and volatility of returns for the portfolios... and identifying a recommended portfolio.

Claims 44 and 55 performing an exposure analysis on each financial product and identifying a recommended portfolio while claim 1 merely claims generating return scenarios... creating a mapping... determining expected returns and volatility of returns for the portfolios... and identifying a recommended portfolio.

Claim 57 determining each financial product's effective asset mix with respect to the set of factor asset classes and identifying a recommended portfolio while claim 1 merely claims generating return scenarios... creating a mapping... determining expected returns and volatility of returns for the portfolios... and identifying a recommended portfolio.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 34-57 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are not seen to be in the technological arts because not apparatus is used or manipulated and the method could be performed by the analysis of the human brain and utilizing word of mouth to identify the recommended portfolio.

Claim Rejections - 35 USC § 102

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-3, 5-8, 10, 14-16, 18-21, 23-25, 27-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Luskin et al (5, 812,987).

As per Claim 1.

Luskin et al ('987) discloses:

generating return scenarios for each asset class of a plurality of asset classes based upon future scenarios of one or more economic factors, see figure 9 (807) and column 9, line 22 – column 10, line 30;

creating a mapping from each financial product of an available set of financial products onto one or more asset classes of the plurality of asset classes by determining exposures of the available set of financial products to each asset class of the plurality of asset classes, see figure 6 (900) and column 7, line 47 – column 8, line 7;

determining expected returns and volatility of returns for each of a plurality of portfolios on the efficient frontier based upon the mapping, each of the plurality of portfolios including combinations of financial products from the available set of financial products, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30 and figures 5A-D;

identifying a recommended portfolio of the plurality of efficient portfolios that maximizes an expected utility of wealth for a part, see column 7, line 5 – column 8, line 7.

As per Claim 2, 15, 24.

Luskin et al ('987) further discloses the expected returns and volatility of returns for each of the plurality of portfolios on the efficient frontier are determined analytically, see column 9, line 22 – column 10, line 30.

As per Claim 3, 16, 25.

Luskin et al ('987) further discloses the expected returns and the volatility of returns for each of the plurality of portfolios on the efficient frontier are determined based upon a simulation process, see column 9, line 22 – column 10, line 30.

As per Claim 5, 18, 27.

Luskin et al ('987) further discloses identifying a recommended portfolio assumes a constant-mix strategy, see column 7, line 46 – column 8, line 7.

As per Claim 6, 19, 28.
Luskin et al ('987) further discloses identifying a recommended portfolio assumes a buy-and-hold strategy, column 7, line 46 – column 8, line 7.

As per Claim 7, 20, 29.
Luskin et al ('987) further discloses defined contribution programs as portfolio to be managed, see column 1, line 20 – column 2, line 26.

As per Claim 8, 21, 30.
Luskin et al ('987) further discloses the set of financial products comprises one or more of bonds, stocks and mutual funds, see column 2, lines 32-34.

As per Claim 10.
Luskin et al ('987) further discloses the asset classes includes a core set of asset classes and a set of factor asset classes and wherein the method further includes conditioning the factor asset classes upon the core asset classes, see column 8, line 8 – column 9, line 11.

As per Claim 14.
Luskin et al ('987) discloses:
generating return scenarios for each asset class of a plurality of asset classes based upon future scenarios of one or more economic factors, see figure 9 (807) and column 9, line 22 – column 10, line 30;
a returns-based style analysis step for creating a mapping from each financial product of an available set of financial products onto one or more asset classes of the plurality of asset classes by determining exposures of the available set of financial products to each asset class of the plurality of asset classes, see figure 6 (900) and column 7, line 47 – column 8, line 7;
a step for determining expected returns and volatility of returns for each of a plurality of portfolios including combinations of financial products available from the available set of financial products, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30;
a recommendation step for identifying a recommended portfolio of the plurality of efficient portfolios that maximizes an expected utility of wealth for a particular investor, see column 7, line 5 – column 8, line 7.

As per Claim 23.
Luskin et al ('987) discloses:
estimating returns for each financial product of an available set of financial products based upon the financial product's sensitivity to movements of a plurality of predetermined economic factors by utilizing a factor model, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30;

determining expected returns and volatility of returns for each of a plurality of portfolios on the efficient frontier for the available set of financial products, the plurality of portfolios each including one or more financial products of the available set of financial products, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30;

identifying a recommended portfolio of the plurality of portfolios that maximizes a particular investor's utility function at a predetermined time horizon taking into consideration the timing and amount of expected contributions and expected withdrawals, if any, see column 7, line 5 – column 8, line 7.

As per Claim 31.

Luskin et al ('987) discloses:

a forecasting means for generating scenarios for each asset class of a plurality of asset classes based upon future scenarios of one or more economic factors, see column 9, line 22 – column 10, line 30;

a fund decomposition means, communicatively coupled to the forecasting means for creating a mapping from each financial product of an available set of financial products onto one or more asset classes of the plurality of asset classes by determining exposures of the available set of financial products to each asset class of the plurality of asset classes, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30;

a means, communicatively coupled to both the forecasting means and the fund decomposition means, for determining expected returns and volatility of returns for each of a plurality of portfolios on the efficient frontier based upon the mapping, each of the plurality of the portfolios including combinations of financial products from the available set of financial products, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30;

a portfolio optimization means for identifying a recommended portfolio of the plurality of efficient portfolios that maximizes an expected utility of wealth for a particular investor based on the expected returns and the volatility of returns, see column 7, line 5 – column 8, line 7.

As per Claim 32.

Luskin et al ('987) discloses:

a storage device having stored therein a portfolio optimization routine to determine portfolio return scenarios for one or more portfolios including combinations of financial products from an available set of financial products and identify a recommended portfolio, see figure 3 (104) and column 7, line 5 – column 8, line 7;

a processor coupled to the storage device to execute the portfolio optimization routine to generate asset class return scenarios, a mapping, portfolio return scenarios, and identify the recommended portfolio, see figure 3 (102):

the asset class return scenarios are generated for each asset class of a plurality of asset classes based upon future scenarios of one or more economic factors, see column 9, lines 22–30;

the mapping associates each financial product of the available set of financial products with one or more asset classes of the plurality of asset classes, the mapping is generated by determining exposures of the available set of financial products to each asset class of the plurality of asset classes, see column 9, lines 22 - 65;

the portfolio return scenarios are generated by determining expected returns and volatility of returns for each of a plurality of portfolios on the efficient frontier based upon the mapping, each of the plurality of portfolios including combinations of financial products from the available set of financial products see column 4, lines 26-43 and column 10, lines 20-30; and

the recommended portfolio is identified by determining a portfolio of the plurality of efficient portfolios that maximizes an expected utility of wealth for a particular investor, see column 9, line 22 – column 10, line 30.

As per Claim 33.

Luskin et al ('987) discloses a machine readable medium, see figure 3 (104, 108) which cause a processor to:

estimate returns for each financial product of an available set of financial products based upon the financial product's sensitivity to movements of a plurality of predetermined economic factors by utilizing a factor, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30;

determine expected returns and volatility of returns for each of a plurality of portfolios on the efficient frontier for the available set of financial products, the plurality of portfolios each including one or more financial products of the available set of financial products, see column 4, lines 26-43 and column 9, line 22 – column 10, line 30; and

identify a recommended portfolio of the plurality of portfolios that maximizes a particular investor's utility function at a predetermined time horizon taking into consideration the timing and amount of expected contributions and withdrawals, if any, see column 7, line 5 – column 8, line 7.

Claim Rejections - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4, 17, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luskin et al (5,812,987) in view of Edesess (5,848,287).

As per Claim 4, 17, 26.

Luskin et al ('987) discloses the optimizing the investor's utility function, but does not disclose that the investor's utility function comprises a mean-variance utility function.

Edesess ('287) teaches mean-variance optimization is an old and well known alternative for portfolio optimization, see column 1, lines 21-40.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to use mean-variance optimization as taught by Edesess ('287) as a design choice.

8. Claims 9, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luskin et al (5,812,987) in view of Atkins (5,644,727).

As per Claim 9, 22.

Luskin et al ('987) discloses the generating return scenarios of a plurality of asset classes and limits on assets and payoffs, see column4, lines 43-67, but does not disclose a stochastic process.

Atkins ('727) discloses a stochastic process as an improvement of optimizing, see column 48, line 45 – column 51, line 33 for the benefit of offering better solutions to investors.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to utilize the stochastic process of optimization taught by Atkins ('727) in the invention of Luskin et al ('987) for the benefit of offering better solutions to investors.

Allowable Subject Matter

9. Claims 11-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

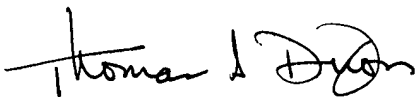
The prior art of record, specifically, Luskin et al ('987) in view of Atkins ('727) or Edesess ('287) or Sharpe et al ("Investments", Fifth Edition, 1995) does not disclose or fairly teach the conditioning factor formula claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Dixon whose telephone number is (703) 305-4645. The examiner can normally be reached on Monday - Thursday 6:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on (703) 308-2702. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



Thomas A. Dixon
Examiner
Art Unit 3629

March 4, 2003